

ABSTRACT

A method of reducing the effects of varying environmental conditions, such as varying temperature, on the measuring results in a measuring instrument, is disclosed as well as a corresponding measuring instrument using the method, for example an optical detector. The measuring instrument comprises a measuring unit (20) with components which are sensitive to varying environmental conditions, and is characterized in that the measuring unit (20) is thermally insulated by a thermal barrier (41) such that the effects of variations in the environmental conditions on sensitive components are substantially reduced, but dissipated heat generated within the measuring unit can still leave the measuring unit, and that the temperature in the measuring unit (20) is controlled by means of a control loop comprising a temperature sensor (37), a heater (36) and a fan (34) to influence the temperature in the measuring unit (20) in such a way that the temperatures at locations with sensitive components are kept substantially constant.
(Figure 2)